

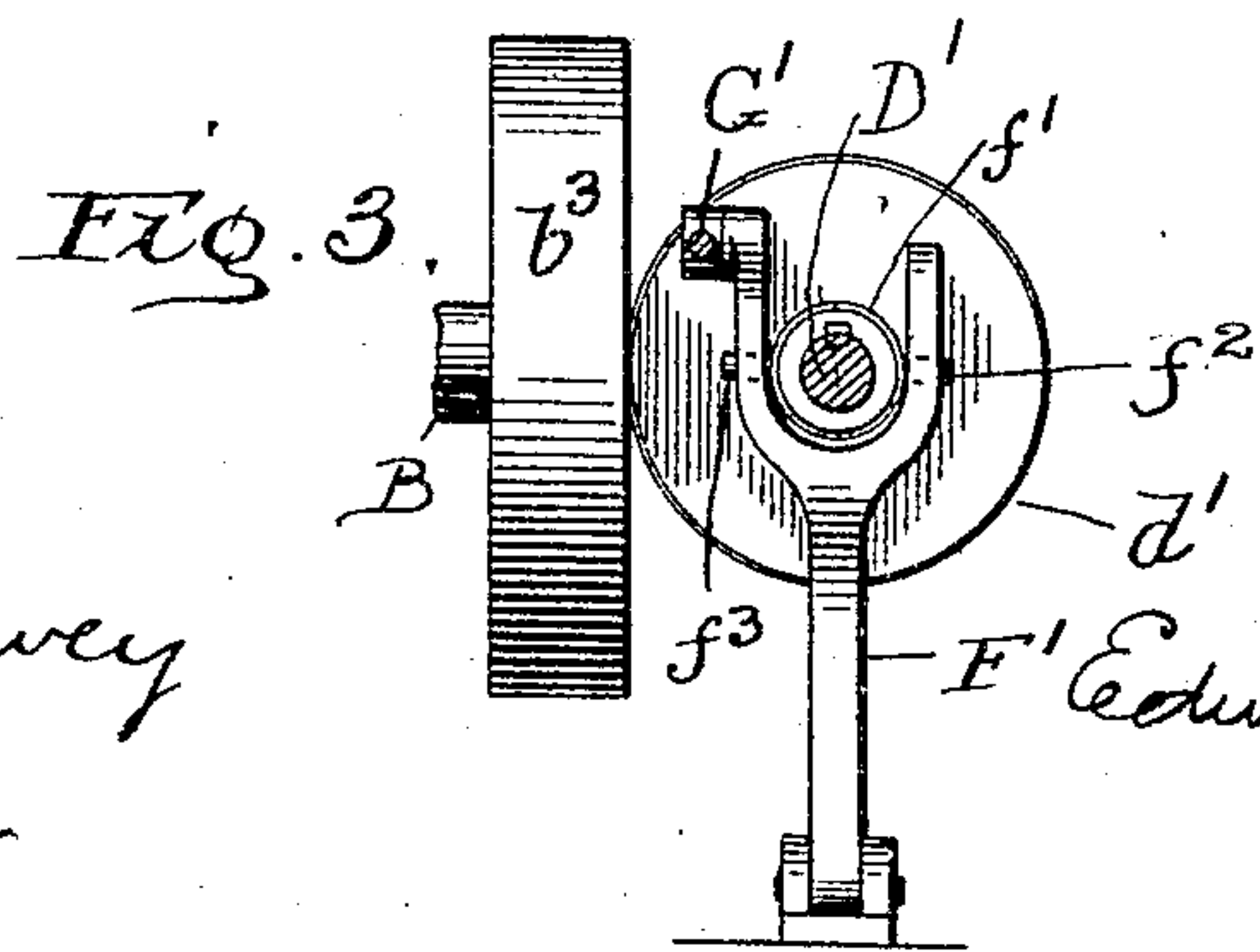
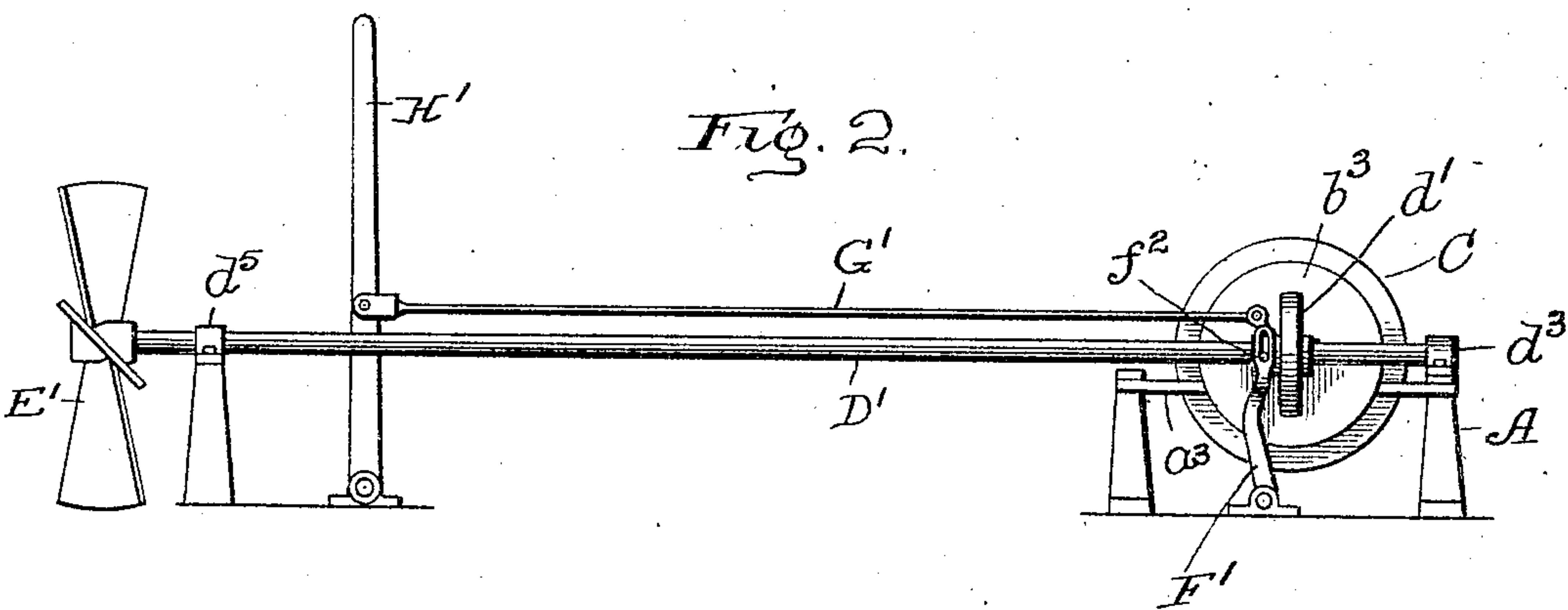
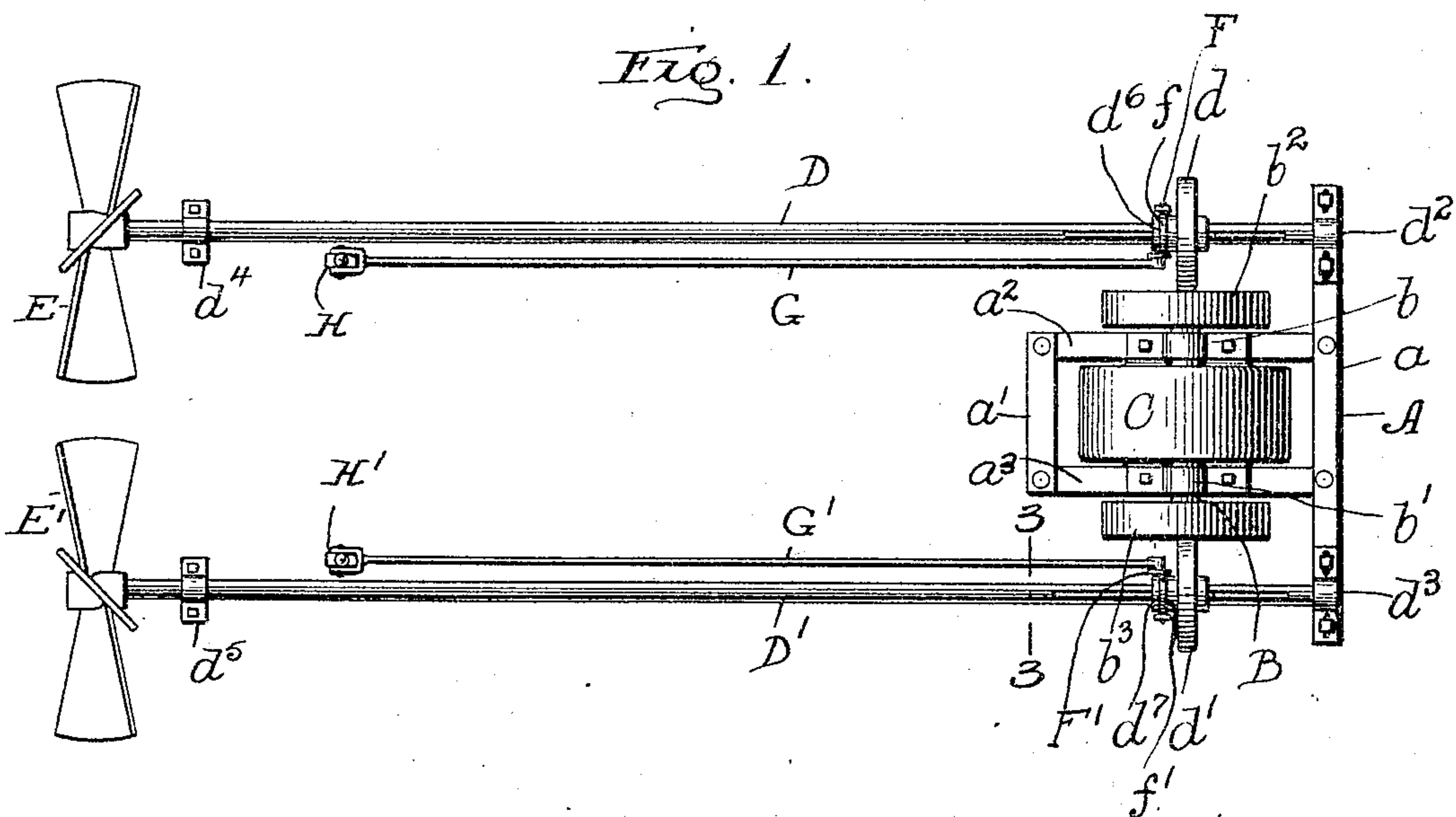
No. 773,615.

PATENTED NOV. 1, 1904.

E. W. WICKEY.
FRICTIONAL GEARING FOR MOTORS.

APPLICATION FILED JAN. 24, 1903.

NO MODEL.



Witnesses:
Chas O. Shervey
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UNITED STATES PATENT OFFICE.

EDWARD W. WICKEY, OF EAST CHICAGO, INDIANA.

FRICTIONAL GEARING FOR MOTORS.

SPECIFICATION forming part of Letters Patent No. 773,615, dated November 1, 1904.

Application filed January 24, 1903. Serial No. 140,357. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. WICKEY, a citizen of the United States of America, residing at East Chicago, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Frictional Gearing for Motors, of which the following is a specification.

My invention relates to certain improvements in frictional gearing for motors, relating particularly to the means by which the motor is held in position and the power transmitted therefrom to the desired work.

The invention is designed especially with a view to the use of a friction-gear in the transmission of the power, and it is one of the main purposes of the invention to provide means for neutralizing the great thrust upon the bearings, which is incident to the ordinary friction-gearing.

The invention is illustrated by means of a simple apparatus shown in the drawings presented herewith, and the characteristic features of improvement wherein the invention lies are definitely pointed out in the claims.

In the drawings, Figure 1 is a plan view of said apparatus; Fig. 2, a side elevation, and Fig. 3 a detail transverse section in line 3 3 of Fig. 1.

Referring to the drawings, A represents a stationary framework having the transverse portions a a' and the longitudinal portions a^2 a^3 . In the portions a^2 a^3 are bearings b b' , in which is journaled a transverse shaft B, carrying a motor of any suitable type, which is contained within the casing C. The motor may be an electric motor, in which case the armature will be mounted directly on the shaft, or it may be any other type of motor, in which B will be the crank-shaft or driving-shaft, by means of which the power is transmitted to the work. The particular style of motor being entirely immaterial, it is thought unnecessary to illustrate the same in detail.

On the opposite ends of the shaft B are friction-disks b^2 b^3 , upon the outer faces of which run friction-pinions d d' , feathered, respectively, upon shafts D D', so as to be movable longitudinally thereon. These shafts are journaled at one end in bearings d^2 d^3 in the

transverse part a of the frame and adjacent to the other end in bearings d^4 d^5 , and propeller-screws E E' are shown upon the ends of the shafts to illustrate one very advantageous application of my invention. The hubs of the pinions d d' are circumferentially grooved, as seen at d^6 d^7 , and split rings f f' are provided in the grooves, secured to pivot-pins f^2 f^3 , (see Fig. 3,) said pins being pivoted in forked levers F F', hinged at the bottom and having pivoted thereto at their tops longitudinally-extending rods G G', extending to hand-levers H H'.

Suitable means for adjusting the frictional pressure of the pinions upon the friction-disks may be provided, the means here shown being simply slotted bearings, as seen at d^2 d^3 . Any of the well-known means for adjusting the friction-disks may be employed for this purpose.

It will be seen that in operation the pressure of the friction-pinions is applied longitudinally of the driving-shaft B, and the pressure of one pinion balances that of the other, so that no thrust-bearing is required to oppose this pressure.

By means of the handles H H' either one of the friction-pinions may be moved radially of its corresponding friction-disk to vary the speed, reverse the motion, or bring the corresponding longitudinal shaft to rest, in the latter case the friction-pinion being upon the center of the disk, at which point the disk may have a slight depression to prevent the wearing of the pinions.

By the use of the two shafts upon opposite sides having independently-operated friction-gears the apparatus may be applied to the propulsion of a boat, and the latter may be steered by means of the handles H, one screw being run at a greater velocity than the other or, if necessary, in the opposite direction from the other.

There are numerous applications which it is thought unnecessary to refer to, and the invention in its main features is independent of details of construction.

I claim as new and desire to secure by Letters Patent—

1. The combination with a driving-shaft

and opposite frictional disks perpendicular thereto, of oppositely-disposed frictional pinions perpendicular to and bearing upon said disks, whereby the pressure of one pinion
5 balances that of the other, and means for moving said pinions radially upon the disks independently of each other and across the center of the frictional surfaces.

2. The combination with a pair of screw-
10 propellers having parallel shafts, of a motor between said shafts having a driving-shaft extending therethrough transverse to the propeller-shafts, friction-disks upon the opposite ends of the driving-shaft, friction-pinions se-

cured against rotation upon the propeller- 15 shafts, and movable longitudinally thereof over the faces of the propeller-shafts and across the centers thereof, and independently of each other, substantially as described.

In witness whereof I have signed the above 20 application for Letters Patent, at Chicago, in the county of Cook and State of Illinois, this 19th day of January, 1903.

EDWARD W. WICKEY.

Witnesses:

CHAS. O. SHERVEY,
S. BLISS.